

REMARKS/ARGUMENTS

Claims 1 to 82 have been canceled without prejudice. New claims 83 to 118 have been added to more clearly present the invention and differences between the new claims and canceled claims should not be viewed as acquiescence to any of the Examiner's rejections. No new matter is believed to be introduced by the present amendment and, therefore, entry and consideration of same is believed proper and is respectfully requested.

The Examiner rejects Claims 21 and 36 to 50 under 35 USC 112, first paragraph, as failing to comply with the written description requirement. The Examiner states that certain phrases included in certain claims do not have support in the specification.

Applicant traverses the rejection. However, in the interest of facilitating prosecution of the application, applicant submits herein new claims which applicant believes obviate the Examiner's rejection. Support for the new claims is as follows:

The term "viewing" in claims 83, 97 and 107, is supported by the specification. For example, the monitoring unit is used to monitor the injection of the object (i.e., embryo or germinal disc), as disclosed, for example, at page 8, lines 8 to 9 of the specification. A practitioner of ordinary skill in the art would understand that in this context to monitor is the same as to watch or view.

The phrase "viewing the surface of a germinal disc at an oblique angle to the surface of the germinal disc" of claim 83, is supported, for example, at page 23, first full paragraph of the specification where it is made clear that the viewing of the object (germinal disc or embryo) is at an oblique angle. The phrase "viewing a germinal disc at an angle not perpendicular to the base of the germinal disc" of claim 97 is in accordance with the meaning of oblique as defined in Webster's dictionary (of record) which includes the definition of "having the axis not perpendicular to the base". The phrase "viewing a germinal disc at an oblique angle to a perpendicular axis of a germinal disc" of claim 107 is supported, for example, in Fig. 1 which shows a perpendicular axis to the germinal disc with the perpendicular axis being represented by the "optical axis" (6), page 25, line 11, seen passing through the "object" (5), page 23, line 6, perpendicular to the "object" (the germinal disc or embryo being represented by the "object" (5)).

The phrase "providing a microscope having an objective, a micropipette, a monitoring unit and a chicken embryo wherein the optical axis of the monitoring unit is at an oblique angle to the optical axis of the objective", in claim 117, is supported for example, (as indicated at the top of page 5 in the Examiner's November 11, 2004 communication) at 62, in Fig. 1, page 23, lines 3 to 6, 6 in Fig. 1, page 25, line 11.

Taking the disclosure of the specification, in combination with the accepted meaning of "oblique", a practitioner of ordinary skill in the art would agree that the inventor had possession of the invention as presently claimed at the time of filing. Therefore, applicant submits that the application as filed provides adequate support for

the claims presently pending in the subject case and requests that the present rejection be withdrawn.

The Examiner rejects the pending claims under 35 USC 112, first paragraph, enablement requirement stating that the specification does not provide enablement for making any species of transgenic avian. Applicant traverses the rejection.

Applicant stated in the Office action response of July 7, 2004 that avian eggs have the feature of an optically opaque yolk underlying the oocyte or germinal disk. In addition, it is expected that the general concerns, and the techniques required, for producing transgenic chickens are generally applicable for other avians. Therefore, applicant submits that the specification, and what was known in the art at the time of filing the present application, provide a practitioner of ordinary skill in the art with sufficient guidance to produce transgenic avians other than transgenic chickens. The Examiner states that it is not apparent why transgenic non-chicken avians have not been made in the art. Applicant submits that, to date, chickens have been the avian of choice for transgenic animal production and that to produce transgenic avians other than chickens in accordance with the present invention is within the ability of an artisan of ordinary skill. Therefore, applicant requests that the present rejection be withdrawn. In addition, applicant submits herein new dependent claims, in which the avian is a chicken, which avoid the Examiner's rejection.

The Examiner rejects claims 54, 55, 67 and 76 under 35 USC 112, first paragraph, enablement requirement stating that using a micropipette that has an oscillator, specifically a piezo-electric oscillator, was only used in the art for delivering a donor nucleus and that, therefore, claims 54, 55, 67 and 76 are limited to methods of delivering a donor nucleus to an avian embryo which, the Examiner states, is not enabled by the specification. Applicant traverses the rejection.

Applicant submits that use of an oscillator in the invention is not limited to producing a cloned avian and therefore the rejection should be withdrawn. An oscillator is included in (a) of originally filed claim 8 and an oscillation is applied to a micropipette in (e) of originally filed claim 8. Claim 8 is a method for delivering nucleic acid to an avian embryo and not a method of cloning an avian. A purpose for applying an oscillation to the micropipette is to assist the bevel (the tip) of the micropipette (e.g., needle) through the cellular membrane. Without the oscillation, the tip of the micropipette may produce an invagination in the membrane leading to a snapback of the membrane once the bevel punctures the invaginated membrane. Such a "snapback" of the membrane may lead to the micropipette tip ending up deep inside of the cell producing disruption and inactivation of the cell. Applicant submits that the present rejection should be withdrawn since use of an oscillator is not limited to the production of a cloned avian.

The Examiner rejects the pending claims under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant traverses this rejection.

Applicant believes that certain aspects of the Examiner's rejection have been obviated by applicant's submission of new claims. For example, the Examiner states that "an angle oblique to the surface of an embryo" is indefinite because the embryo has a surface of 360 degrees and; therefore, the angle oblique relative to any surface on the embryo is any angle. Certain presently pending claims specify viewing a germinal disc. Applicant submits that the surface of the germinal disc is generally flat as seen, for example, in Fig. 2 ("70" of Fig. 2).

The Examiner rejects the claims under 35 USC 103(a) as being unpatentable over Tanaka (1994, J. Reprod. Fert., Vol. 100, pg 447-449) in view of Sang (Molecular Reproduction and Development, 1989, Vol 1, pg 98-106).

Applicant traverses the rejection. However, applicant submits herewith new claims which applicant believes obviate the Examiner's rejection. For example, none of the references disclose, teach or even suggest viewing a germinal disc or embryo as claimed to produce a transgenic avian.

In conclusion, applicant has shown that pending claims 83 to 118 meet the requirements for patentability under the 35 USC 112, first and second paragraphs and under 35 USC 103. Therefore, applicant submits that the presently pending claims are allowable and respectfully requests the Examiner to pass the above-identified application to allowance.

If any issues remain unresolved, or if the Examiner has any questions, it is requested that the Examiner call applicant's attorney at the below referenced telephone number.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kyle Yesland", is written over the typed name.

Kyle Yesland, 706-227-1170 ext. 233
Attorney for Applicants
Reg. No. 45,526
AviGenics, Inc.
Legal Department
111 Riverbend Road
Athens, Georgia 30605